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Introduction

The primary uses of GAP data have included resource management, biodiversity assessment, planning, site prioritization, and as a component of State Wildlife Action Plans (SWAPs; Maxwell, 2005). With the completion of SWAPs and their approval by the U.S. Fish and Wildlife Service, the foundation has been laid for a national strategy for protecting and preserving biological diversity across the U.S. State and regional GAP projects have made significant contributions to the development of this foundation, and have equally significant contributions to make to SWAP implementation and monitoring.

Methods

Plan coordinators in 50 states and Puerto Rico were surveyed about four key issues.

- The extent to which different elements of GAP data were used in SWAP development.
- The importance of GAP data in addressing specific SWAP components.
- The extent to which SWAP coordinators are planning to use GAP data in the future to update and review their plans.
- The value of possible enhancements to GAP data.

Respondents were asked to respond along a 5-point scale, which evaluated the importance of the issue or the extent to which GAP data were relied on. The scale ranged from not important/not at all (1) to most important/only used GAP (5). Responses were recorded and analyzed using Microsoft Excel.

Results

A total of 44 responses were received, 34 (77%) of whom used GAP data in plan development, and 10 (23%) who did not. This compares favorably with the results of our 2005 survey, in which out of all states and Puerto Rico, 12 states (24%) did not use GAP data (Maxwell, 2005). Overall 34 states indicated using GAP data elements (i.e. data types), and 27 states used five or more of the 10 data elements specifically asked about (Figure 1).

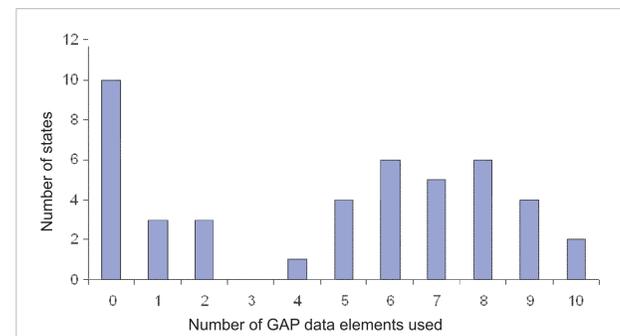


Figure 1. The number of GAP data elements used by states in SWAP development. Only the states that responded to the survey are included (n = 44). Most states used at least five elements.

Importance of GAP data in SWAP development

Respondents relied on GAP land cover data far more than they relied on other elements of GAP data (Figure 2). Six states (14%) said GAP was their only source for land cover. Another 16 (36%) said they used it extensively. The vegetation classifications were used extensively or exclusively by 33% of respondents, while the predicted vertebrate distribution maps were used extensively or exclusively by 25% of respondents. Other elements of GAP data were not used as extensively, but still played an important role in SWAP development; with at least one-third using aquatic, stewardship, ownership and species richness data, species lists, and/or habitat descriptions.

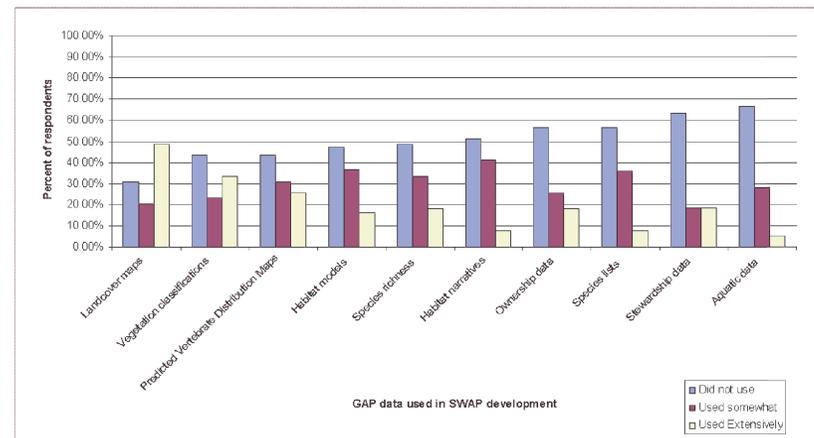


Figure 2. Respondents (n=44) relied on GAP land cover data far more than they relied on other elements of GAP data. Twenty-two states used land cover data a lot (either extensively or exclusively). The vegetation classifications were used a lot by 33% of respondents, while the predicted vertebrate distribution maps were used a lot by 25% of respondents. Other components of GAP data were not used as extensively, but still played an important role in SWAP development. At least 1/3 of respondents reported using aquatic, stewardship, ownership and species

Plan components addressed using GAP data

GAP data were used to address a variety of SWAP issues (Figure 3). Among the 34 respondents who used GAP data, more than 75% used the data to identify and assess the condition of species of greatest conservation need (SGCN). For many states, GAP species and habitat distributions provided the data they needed to locate SGCN on the landscape.

In conjunction with other data, planners also used GAP to:

- assess the status of particular species in their state.
- map species richness,
- determine habitat associations, and
- describe habitat

Less commonly reported uses of the data included:

- to place the state in a regional context;
- to stress the importance of private land conservation; and
- to derive data sets of predicted distributions, land cover and known species points

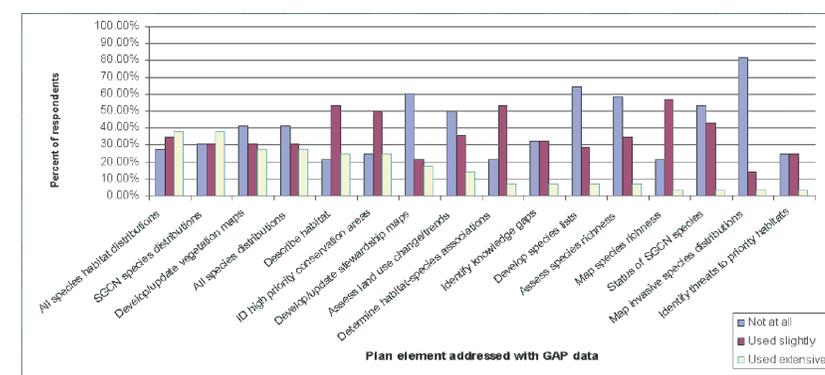


Figure 3. Respondents used GAP data to address a variety of SWAP issues. Responses were grouped for clarity into three categories: Not at all, Used slightly (those who responded with a 2 or 3 on the survey) and Used extensively (those who responded with a 4 or 5 on the survey). SGCN refers to species of greatest conservation need. N = 28 or 29, not every respondent gave a score to every plan component.

Intent to use GAP data to update and revise SWAPs

33 respondents (82%) indicated that they would address at least one aspect of their SWAP update or review with GAP data. Sixteen coordinators (41%) said they would rely heavily or exclusively on GAP to improve the wildlife habitat mapping done for the SWAP. Plan coordinators also expect GAP data to make a contribution to identifying knowledge gaps and threatened landscapes; and for helping designate critical habitat.

Desired GAP data modifications

The modifications to GAP data that SWAP coordinators deemed most important were:

- more information on habitat change,
- finer scale mapping for specific species,
- more information on habitat condition.

Other desired modifications included:

- improved delineation of grassland types, successional habitats, and wetlands;
- accuracy assessment,
- better resolution to help delineate vegetation cover types;
- threat assessment,
- progress assessment, and
- assessment of restoration potential.

Discussion

Some of the issues identified are being addressed and some continue to pose challenges. As regional and aquatic mapping projects are completed, more regional land cover maps and data and more data about aquatic ecosystems will become available. Other modifications, such as the need for a shorter timeline, finer scale mapping for select species, and more information on species abundance are more intractable because they depend on data availability, data quality, funding and available technology. GAP will continue to focus on these issues.

Conclusions

The development of SWAPs has laid a foundation for conservation in the U.S. GAP has played an important role in the development of that foundation and will continue to play a role in ongoing regional mapping efforts to create a unified land cover map of the U.S. The development of the GAPServe data portal (<http://gapanalysis.nbio.gov>) will make it easier for natural resources planners and other decision makers to access and use GAP data.

A key component of GAP projects has been the collaborative approach with which they are conducted on a state, aquatic, and regional basis. Continued close collaboration between GAP and state and federal natural resource professionals will lead to increased general awareness and use of GAP data. In return, GAP will gain insights regarding future research and mapping efforts.

Literature Cited

Maxwell, J., 2005. The integration of GAP data into state comprehensive wildlife conservation strategies. Gap Analysis Bulletin, 13:10-13.

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